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Chronic CAD/Stable Ischemic Heart Disease

DETAILED INVESTIGATION OF VASCULAR RESPONSE BETWEEN PATIENTS WITH OR WITHOUT DIABETES MELLITUS AFTER EVEROLIMUS-ELUTING STENT IMPLANTATION; OPTICAL COHERENCE TOMOGRAPHY STUDY

ACC Moderated Poster Contributions
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Session Title: DES and Drugs: Decisions in Diabetics
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Background: There is a theoretical concern about reduced efficacy of limus-drug for the treatment of diabetics.

Methods: From the Kobe University OCT data base, 72 lesions (DM: n=27, non-DM: n=45) in 55 patients treated with everolimus-eluting stent (EES) that underwent 8-month follow-up OCT were enrolled. In addition to standard variables, variability of neointima thickness (NIT) was evaluated by standard deviation of NIT computed from 360 equally-spaced radial sectors along the entire segment. Additionally, the incidence of struts with peri-strut low intensity area (%PLIA), suggestive of fibrin deposition or impaired neointima maturation, was calculated.

Results: Despite a greater asymmetric stent expansion in DM (Minimum stent expansion index: DM 0.78±0.06, non DM 0.82±0.06; p=0.041), DM showed comparable average NIT (DM: 114±85μm, non DM: 99±49μm; p=0.35) and % uncovered struts (DM: 1.80±4.29, non DM: 1.88±5.96; p=0.50) to non-DM. The variability of neointima distribution did not differ between the two groups, suggesting comparably uniform neointimal suppression by EES irrespective of DM (DM: 0.076±0.052, non DM: 0.062±0.031; p=0.14). The prevalence of %PLIA didn't differ between the groups (DM:3.1±4.7%, non DM: 1.2±1.7%; p=0.39).

Conclusions: Although a greater asymmetric stent expansion was observed in DM, EES provided similar neointima suppression regardless of DM.

OCT measurement and analysis

Variable	DM (n=27)	Non DM (n=45)	P value
Average number of struts (n)	221.9±95.3	200.3±91.7	0.34
% of malapposed stent struts	1.15±3.71	0.50±1.31	0.28
% of uncovered stent struts	1.8±4.3	1.9±6.0	0.95
Average neointimal thickness (μm)	0.11±0.09	0.09±0.05	0.35
Neointima variability score	0.08±0.05	0.06±0.03	0.14
Minimum stent expansion index	0.78±0.06	0.82±0.06	0.04
% peri-strut low intensity area	3.1±4.7	1.2±1.7	0.39
Presence of RUST30	2	4	>0.99
%CS of RUS30	0.06±0.13	0.04±0.12	0.47